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ABSTRACT

The research reported in this paper was conducted to assess the effect, if any, of school desegregation, as it occurred in 1966 in Riverside, California, on the speech habits and abilities of the children involved, and to assess the implication of these effects in relation to other psychological factors. Frequency count methods and California Achievement Test responses were used. One index of vocabulary size, average word length, showed predesegregational differences when ethnic group was considered as a variable. However, results as to desegregation effects were equivocal in that there was increase in word length for some grade levels and decrease for others. The ordering of the means with respect to ethnic groups did not appear to change with desegregation, although ethnic differences showed significant increase. [Not available in hard copy due to marginal legibility of original document.] (Author/DM)

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DESEGREGATION AS A FACTOR IN THE SPEECH HABITS OF SCHOOL CHILDREN: A STATISTICAL APPROACH[1]

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Abstract

Frequency count methods are used to assess whether desegregation has any effects on the CAT responses of both Anglo and minority children. The measure of average word length as an index of vocabulary size shows pre-desegregational differences when ethnic group is considered as a factor. Results are equivocal as to the effects of desegregation in that these effects appear to increase in word length for some grade levels and decrease for others. The ordering of the means with respect to ethnic groups does not appear to change with desegregation although ethnic differences show significant decrease.

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The purpose of this particular investigation is to see whether school desegregation, as it occurred in 1966 in Riverside, California, had or is having any effects on the speech habits and abilities of the children who were involved, and if so, to attempt to assess the implications of these effects in relation to other psychological factors such as sociometric environment, demographic, and personality variables.

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The present study consists of two phases. In the first phase we attempted to determine some specific subset of speech behavior which could serve as a common ground for comparisons between ethnic groups. In the second phase, we are attempting to assess the changes as a result of the effects of desegregation in the speech subsets of each ethnic group relative to itself.

Thus, we can state that the present study observes the changes in a specific subset of speech behavior rather than attempting a comprehensive analysis of the language and undertakes to identify trends which exist within an ethnic group as well as differences between ethnic groups.

Data

The data of the study consists of the transcribed protocols of the stories children have told in response to four CAT cards in their second interview both in 1966 and 1967. These interviews were designed initially to measure the effects of interview reinforcement on the average length of the stories told by the children.

The reinforcements were given during the second and third stories and although this treatment is uniform across all respondents it does restrict the data in its representation of speech behavior in general. The pictures are described as follows:

1. Two adult bears sleeping. Baby bear awake.
2. Tug-of-war Papa bear vs Mama bear and baby.
3. Tiger attacking a fleeing monkey.
4. A small rabbit in a room in his bed looking through the open bedroom door.

Another restriction imposed by the data is that there are relatively few data per respondent and a large number of respondents. Further, the transcribed

protocols are not sufficiently detailed to yield to regular linguistic scrutiny.

The above restrictions led to the consideration of other means of assessing the language of the children involved rather than carrying out a linguistic analysis.

The primary purpose of the present study is to obtain reasonable measures (subsets) of the speech behavior of children and investigate whether desegregation constitutes a factor of significance as far as these measures are concerned.

The present portion of the study deals with only one of these measures: the average (mean) word length of the respondent, which is assumed to be an index of his vocabulary size.

Two studies were conducted, the first one on some 45 respondents and the second one on all the minority children and 100 Anglo children, 522 in total.

The first study itself only involved a word-length measure which was the simple ratio of the total number of letters to the total number of words in a given speech sample after speech disturbances were edited out. This ratio was then corrected for the absolute size of the child's verbal output.

Why word length? Although the measure appears to be relatively unsophisticated, it is relatively easy to obtain. Zipf (1935) and later Yule (1944) and Herdan (1964) state that shorter words are distinctly favored in usage than longer words and are, therefore, more frequent. This implies that the learning of short words would come first and relatively more easily since exposure to these words would have a larger probability of occurrence. Contrarily, it would take a more active effort to learn less frequently occurring words. Although there is disagreement among psycholinguists as to why these

relationships are as reported, the fact that they hold true is beyond any doubt. Thus, if a child's speech sample exhibits a relatively higher average word length, indicating that it contains words which are relatively longer, we can consider the child (a) to be more advanced in his mastery of English, (b) to have a larger vocabulary. The rationale behind the second statement is that there are a larger number of longer words in a given language than there are shorter words due to laws of permutation. The size of a child's vocabulary can be assessed also by the size of type-token ratio in the speech sample.

In summary, average word length appeared to be the most theoretically viable measure for the purposes of this study which, after all, is not at all purely linguistic. On the contrary, we are utilizing linguistic measures among a battery of others in order to gain a commonsensical and somewhat wholistic perspective as to what is taking place.

In the first study the predesegregational data yielded significant ethnic differences with respect to word length, the Anglo children having the longest average word length, Mexican-American children the second longest, and Afro-Americans the least of the three ethnic groups. On the post-desegregational level the same order prevailed. However, the differences between the ethnic groups had decreased considerably. This situation was also reflected in the difference scores from pre- to postdesegregation. Afro-Americans showed the highest amount of increase in their average word length, Mexican-Americans the second highest, and Anglo-Americans the least.

The schema behind the present study involves the assessment of different ethnic speech habits along two dimensions of similarity and development. One of the basic theoretical assumptions of this study is that comparisons between ethnic groups can only be meaningful along the dimension of similarity,

and further, any effect of desegregation should first be assessed in terms of its effects of whether it contributes to any developmental process as distinguished from any dissimilarities involved, whatever these may be. Such dissimilarities may decrease due to their segregational raison d'etre or may remain as deep-rooted ethnic characteristics. This study deals with such phenomena only insofar as they are indices of or contribute to developmental processes.

Presently some results are available to us in terms of word-length measures. There appears to be a significant ethnic difference in predesegregational word-length measures. The Anglo-Americans characteristically exhibit a longer mean word length than both of the minority groups and the Afro-Americans the shortest mean word length. One interpretation of this result is that whereas Anglo-American children use a larger vocabulary (given that the assumption mentioned earlier is true) in their speech, the Afro-American children may be using a smaller vocabulary but assign the same word different meanings as a function of context (e.g., mother). Such a process would result in greater repetition of words and a smaller vocabulary size but it is by no means indicative of any linguistic competence when utilized for ethnic comparisons.

Some of the longitudinal results from predesegregational word length to postdesegregational word length indicate that desegregation does not have a significant effect on ethnic differences between Mexican-American and Afro-American children. (The comparisons with Anglo-American children are not yet available.) The interaction between grade level and desegregation, on the other hand, yields a somewhat equivocal picture. The results appear to support the hypothesis that desegregation may have a differential effect on minority children of different school ages. To give an instance, although

Afro-American children appear to increase their mean word length from 2nd to 3rd grade after one year of desegregation, we observe a notable decrease in mean word length from 3rd to 4th grade. The net effect of this is a considerable increase in the general variability of mean word length from pre- to postdesegregation. A similar but less dramatic situation is observed in the mean word-length scores of Mexican-American children.

Further, with its larger sample population, the correlational results of the present study have indicated that word length is not significantly related to intelligence (r=.180) as measured by either Peabody Picture Vocabulary or the Raven's Progressive Matrices test scores. This finding is in support of the hypothesis that speech as measured and indexed by average word length may be rather related to social setting (the sociometric configuration of the classroom), than to intelligence as measured by the above-mentioned test.

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